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Listing of the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1–9 (Cancelled).

10. (Previously presented) A process for continuously preparing an ethylene homopolymer or copolymer in a high-pressure tube reactor in presence of at least one free-radical polymerization initiator and, optionally, at least one molecular weight regulator at from 120°C to 350°C and a pressure from 1000 to 4000 bar, wherein the ethylene homopolymer or copolymer is separated from unpolymerized ethylene and optionally from comonomers in a high-pressure stage at a pressure from 100 to 500 bar and at least one low-pressure stage at a pressure from 1 to 100 bar, the unpolymerized ethylene separated off in the high-pressure stage is separated from any remaining monomeric, oligomeric and/or polymeric constituents and is re-circulated to a first inlet of the tube reactor in a high-pressure circuit, and the unpolymerized ethylene separated off in the low-pressure stage is separated from any remaining monomeric, oligomeric and/or polymeric constituents and is re-circulated to a second inlet of the tube reactor in a low-pressure circuit, wherein the free-radical polymerization initiator is used as a solution in an isoparaffinic solvent, the isoparaffinic solvent comprising a boiling point equal to or less than 160°C, and the isoparaffinic solvent is separated from the monomeric, oligomeric and/or polymeric constituents in the low-pressure circuit, and the isoparaffinic solvent is reused for dissolving the free-radical polymerization initiator.

11. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent is separated off in the low-pressure circuit by means of at least one first gas-liquid separator and at least one last gas-liquid separator connected in series, with the temperature being reduced from separator to separator so that the monomeric, oligomeric or polymeric constituents are separated out in a first gas-

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liquid separator and the isoparaffinic solvent is essentially separated out as liquid in a last gas-liquid separator.

12. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent has a boiling point equal to or less than 150°C.

13. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent has a boiling point equal to or less than 135°C.

14. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent which has been separated off is used without further purification for dissolving the free-radical polymerization initiator.

15. (Previously presented) The process of claim 11, wherein the pressure upstream of the last gas-liquid separator is increased such that the isoparaffinic solvent condenses while ethylene monomer is in a gaseous state.

16. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent has a spontaneous ignition temperature of at least 250°C.

17. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent has a spontaneous ignition temperature of at least 300°C.

18. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent is a mixture of which at least one isoparaffin has a boiling point from 100 to 150°C.

19. (Previously presented) The process of claim 10, wherein the isoparaffinic solvent is a mixture of which at least one isoparaffin has a boiling point from 110 to 140°C.

20-21 (Canceled).